Creative Enzymes®

Native Saccharomyces cerevisiae Hexokinase

Cat. No. NATE-0342

Lot. No. (See product label)

Introduction

Description A hexokinase is an enzyme that phosphorylates hexoses (six-carbon sugars), forming hexose phosphate. In most organisms, glucose is the most important substrate of hexokinases, and glucose-6-phosphate the most important product. Hexokinase can transfer an inorganic phosphate group from ATP to a substrate. Hexokinases should not be confused with glucokinase, which is a specific isoform of hexokinase. While other hexokinases are capable of phosphorylating several hexoses, glucokinase acts with a 50-fold lower substrate affinity and its only hexose substrate is glucose.

Synonyms hexokinase type IV glucokinase; hexokinase D; hexokinase type IV; hexokinase (phosphorylating); ATP-dependent hexokinase; glucose ATP phosphotransferase; hexokinase; ATP:D-hexose 6-phosphotransferase; EC 2.7.1.1; 9001-51-8

Product Information

Source Saccharomyces cerevisiae

Form Type I, Lyophilized powder containing phosphate/Citrate pH approx. 7.0; Type II, Type III, Lyophilized powder containing approx. 15% sodium Citrate.

EC Number EC 2.7.1.1

CAS No. 9001-51-8

Molecular Weight ~ 54 kDa (monomer); ~110 kDa (dimer)

Activity Type I, > 350 units/mg protein; Type II, > 25 units/mg protein (biuret); Type III, > 130 units/mg protein (biuret).

Optimum pH 7.5 to 9.0

Activators Hexokinase requires Mg2+ ions (KM = 2.6 mM) for activity. Hexokinase is activated by catecholamines and related compounds.

Inhibitors sorbose-1-phosphate, polyphosphates, 6-deoxy-6-fluoroglucose, 2-C-hydroxy-methylglucose, xylose, lyxose, and thiol reactive compounds (Hg2+ and 4-chloromercuribenzoate)

Function ATP binding; catalytic activity; hexokinase activity; ATP binding; catalytic activity; hexokinase activity

Unit Definition One unit will phosphorylate 1.0 µmole of D-glucose per min at pH 7.6 at 25°C, unless otherwise indicated below.

Storage and Shipping Information

Storage −20°C